

Notice of Allowability

Application No.

10/787,362

Examiner

Ms. Arti Singh

Applicant(s)

PENG ET AL.

Art Unit

1771

ed

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/26/04.
2. ☒ The allowed claim(s) is/are 16-29.
3. ☒ The drawings filed on 02/26/04 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

- The application has been amended as follows: please add the status identifiers to cancelled claims 1-15 as per the transmittal of 02/26/04, which cancelled claims 1-15;
- correct the status identifiers of Claims 16-29 as listed below—and
- in the first paragraph of the specification after the serial number 09/759,043 please insert—now USPN 6,544,911-- .

Claims 1-15 (cancelled)

Claim ~~16~~¹ (Original) An asphalt coated roofing material comprising a cured non-woven mat that comprises a mixture of fibers having different fiber lengths, said fibers containing a polysiloxane compound, and fixedly distributed in a binder.

Claim ~~17~~² (Currently Amended) The asphalt coated roofing material of Claim ~~16~~¹ wherein from about 0 to about 100 weight % of said fibers have a fiber length of from about 0.5 to about 60mm, and from about 0 to about 100 weight % of said fibers of said fibers have a preferable fiber length of from about 0.5 to about 60mm.

Claim ~~18~~³ (Currently Amended) The asphalt coated roofing material of Claim ~~16~~¹ wherein said fibers comprise fibers of glass, wood, polyethylene, polypropylene, polyester, nylon and Orlon acrylic fibers or mixtures thereof.

Claim ~~19~~⁴ (Original) The asphalt coated roofing material of Claim ~~18~~³ wherein said fibers are glass fibers having an average diameter of from about 1 to about 100 μ m.

Claim ~~20~~⁵ (Original) The asphalt coated roofing material of Claim ~~16~~¹ wherein said fibers are present in an amount of from about 50 to about 95 weight %, said polysiloxane is present in an amount of from about 0.001 to about 20 weight % and said binder is present in an amount of from about 5 to about 50 weight %.

Claim ~~21~~⁶ (Original) The asphalt coated roofing material of Claim ~~16~~¹ wherein said binder is formaldehyde type binder containing between about 0.1 and about 20 weight % of a crosslinked styrene/(meth)acrylic polymer binder modifier.

Claim ~~22~~⁷ (Original) The asphalt coated roofing material of Claim ~~21~~⁶ wherein said formaldehyde

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type binder comprises formaldehyde and a compound selected from the group consisting of urea, phenol, resorcinol, melamine and mixtures thereof.

Claim ~~28~~⁸ (Original) The asphalt coated roofing material of Claim ~~22~~⁷ wherein said compound is urea.

Claim ~~24~~⁹ (Original) The asphalt coated roofing material of Claim ~~21~~⁶ where the styrene/(meth)acrylic polymer is crosslinked with a polyfunctional nitrogen-containing crosslinking agent.

Claim ~~25~~¹⁰ (Original) The asphalt coated roofing material of Claim ~~16~~¹ wherein said polysiloxane is a polyalkylsiloxane.

Claim ~~26~~¹¹ (Original) The asphalt coated roofing material of Claim ~~25~~¹⁰ wherein said polyalkylsiloxane is polydimethylsiloxane.

Claim ~~27~~¹² (Original) The asphalt coating roofing material of Claim ~~18~~¹ wherein said fibers are glass fibers.

Claim ~~28~~¹³ (Original) The asphalt coated roofing material of Claim ~~16~~¹ wherein said material is a shingle.

Claim ~~29~~¹⁴ (Original) The asphalt coated roofing material of Claim ~~16~~¹ wherein said material is a sheet or roll.

2. The following is an examiner's statement of reasons for allowance: There was no prior art found that teaches or fairly suggests using a crosslinked styrene/(meth) acrylic polymer binder modifier, in a nonwoven fibrous mat wherein the percentage by weight of the fibers is from about 60% to 95%, containing a polysiloxane from about 0.001% to about 15%, further containing a formaldehyde binder from about 40 to 5% in which the crosslinked styrene polymer resides.

Mirous (USPN 5,518,586) is believed to be the closest prior art. Mirous teaches a urea-formaldehyde binder/glass fiber composite, which exhibits high tear strength, a property desirable for the use in roofing products. Mirous discloses the basic structure, fiber lengths and fiber diameters, but fails to disclose two basic novel features of the instant application: that is the use of cross-linked styrene (meth) acrylic polymer binder within the formaldehyde binder and secondly, the fibers further containing a polysiloxane. However as cited in the parent Application, the secondary reference of Marzocchi is relied upon for the teachings of its alleged disclosure of a polysiloxane compound. At Column 2, a line 6-24 (Marzocchi) describes the addition of crosslinking and various catalyst systems as modifiers of the urea-formaldehyde resin, which deteriorate in the absence of such modifiers. This is indeed the case. The invention of Mirous resides in the use of a water-insoluble anionic phosphate ester as the modifier. As such, the combination with Marzocchi is improper. There is nothing in Mirous to motivate one skilled in the art to combine its teaching with the alleged polysiloxane teaching of Marzocchi. This is so because Mirous explains in great detail the advance in the art provided by modifying a nonwoven urea formaldehyde glass fiber mat with an anionic phosphate ester. If anything, the teaching of Mirous is away from the

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present application insofar as the advance in the art provided by use of an anionic phosphate ester would discourage one skilled in the art from utilizing a totally different modifier, a polysiloxane. The above remarks, which applicants respectfully submit is enough to overcome the basis for rejection of Claims 1-5, 14 and 15, is predicated upon the theory that Marzocchi actually teaches the modification of a urea formaldehyde glass fiber mat with a polysiloxane compound. In fact, Marzocchi does not make such a teaching. The teaching of Marzocchi is succinctly summarized at Column 3, lines 45-58. It recites that resorcinol and an aldehyde are reacted in the presence of a primary or secondary amine and in the presence of an amino silane, silanol or polysiloxane. It is recited that the amino silane or, presumably, the polysiloxane becomes chemically bonded in the resorcinol aldehyde matrix to provide a resin solution, which can be combined with an alkylene elastomer latex without precipitating the resin or coagulating the latex. And thus, this teaching is distinguished from the claims of the present application. The present application teaches the separate inclusion of a polysiloxane compound. That is, a non-woven mat includes a polysiloxane compound. On the other hand, the Marzocchi reference is directed to a complex polymer formed by the reaction product of resorcinol, an aldehyde, a primary or secondary amine and an aminosilane, silanol or polysiloxane. As such, no discrete polysiloxane compound is present in the glass fiber reinforced elastomer taught by Marzocchi.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-F 9-7pm.

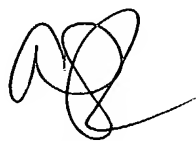
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to be 'AS' with a stylized flourish extending from the bottom right.

Ms. Arti Singh
Primary Examiner
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Ars 08/19/04